**Chapter 2: Instructions – Language of the Computer**

Example 1: RISC-V code for clearing an array using indices

li x5, 0 //i = 0

loop1:slli x6, x5, 3 //x6 = i \* 8

add x7, x10, x6 //x7 = address of array[i]

sd x0, 0(x7) //array[i] = 0

addi x5, x5, 1 //i = i + 1

blt x5, x11, loop1 //if(i < size), branch to loop1 subroutine

**\*n o t e\***

slli x6, x11, 3

add x7, x10, x6

Moved out of loop to avoid repeated calculation of address of array end each iteration.

Example 2: RISC-V code for clearing an array using pointers

mv x5, 0 //p = address of array[0]

slli x6, x11, 3 //x6 = size \* 8

add x7, x10, x6 //x7 = address of array[size]

loop2:sd x0, 0(x5) //Memory[p] = 0

addi x5, x5, 8 //p = p \_ 8

bltu x5, x7, loop2 //if(p < &array[size]), branch to loop2 subroutine